

## CLAIMS

1           1.     A buffer arrangement comprising:  
2                 a predetermined plurality of ports; and  
3                 buffer resources of a predetermined size;  
4                 wherein any number of said plurality of ports may be arranged for use for  
5     data-handling, and wherein said buffer resources are configurable to have a sub-size of said  
6     buffer resources assigned to each port of said plurality of ports in a first configuration  
7     where all of said plurality of ports are arranged for use for data handling, and wherein said  
8     buffer resources are reconfigurable to have a differing sub-size of said buffer resources  
9     assigned to at least one used port of said plurality of ports in a second configuration when a  
10    lesser number than said plurality of ports are arranged for use for data handling.

1           2.     A buffer arrangement as claimed in claim 1, wherein a concatenation  
2     arrangement is used to make said buffer resources reconfigurable to have said differing  
3     sub-size of said buffer resources assigned to at least one used port of said plurality of ports  
4     in said second configuration.

1           3.     A buffer arrangement as claimed in claim 1, wherein at least a portion of a  
2     buffer resource of an unused port is reassignable to said at least one used port in  
3     reconfiguration of said buffer resources to said differing sub-size assigned to at least one  
4     used port in said second configuration.

1           4.     A buffer arrangement as claimed in claim 1, wherein said buffer resources  
2 are configurable to have a substantially equal sub-size of said buffer resources assigned to  
3 each port of said plurality of ports in said first configuration where all of said plurality of  
4 ports are arranged for use for data handling.

1           5.     A buffer arrangement as claimed in claim 1, wherein said buffer resources  
2 are reconfigurable to have a second substantially equal sub-size of said buffer resources  
3 assigned to each used port of said plurality of ports in said second configuration when said  
4 lesser number than said plurality of ports are arranged for use for data handling, said  
5 second substantially equal sub-size being different in size from said substantially equal sub-  
6 size where all of said plurality of ports are arranged for use for data handling.

1           6.     A buffer arrangement as claimed in claim 1, wherein said buffer  
2 arrangement is reconfigurable by at least one of switches and programmable registers.

1           7.     A buffer arrangement as claimed in claim 1, wherein said buffer  
2 arrangement is embodied in at least one of a multi-port switch and repeater.

1           8.     A buffer arrangement as claimed in claim 7, wherein said at least one of a  
2 multi-port switch and repeater is arranged to comply with at least one of Next Generation  
3 Input/Output (NGIO), Future Input/Output (FIO) and InfiniBand standards.

1           9.     A data-handling device comprising:

2 a buffer arrangement comprising:

3 a predetermined plurality of ports; and

4 buffer resources of a predetermined size;

5 wherein any number of said plurality of ports may be arranged for use for  
6 data-handling, and wherein said buffer resources are configurable to have a sub-size of said  
7 buffer resources assigned to each port of said plurality of ports in a first configuration  
8 where all of said plurality of ports are arranged for use for data handling, and wherein said  
9 buffer resources are reconfigurable to have a differing sub-size of said buffer resources  
10 assigned to at least one used port of said plurality of ports in a second configuration when a  
11 lesser number than said plurality of ports are arranged for use for data handling.

1 10. A data-handling device as claimed in claim 9, wherein a concatenation  
2 arrangement is used to make said buffer resources reconfigurable to have said differing  
3 sub-size of said buffer resources assigned to at least one used port of said plurality of ports  
4 in said second configuration.

1 11. A data-handling device as claimed in claim 9, wherein at least a portion of a  
2 buffer resource of an unused port is reassignable to said at least one used port in  
3 reconfiguration of said buffer resources to said differing sub-size assigned to at least one  
4 used port in said second configuration.

1 12. A data-handling device as claimed in claim 9, wherein said buffer resources  
2 are configurable to have a substantially equal sub-size of said buffer resources assigned to

each port of said plurality of ports in said first configuration where all of said plurality of ports are arranged for use for data handling.

13. A data-handling device as claimed in claim 9, wherein said buffer resources are reconfigurable to have a second substantially equal sub-size of said buffer resources assigned to each used port of said plurality of ports in said second configuration when said lesser number than said plurality of ports are arranged for use for data handling, said second substantially equal sub-size being different in size from said substantially equal sub-size where all of said plurality of ports are arranged for use for data handling.

14. A data-handling device as claimed in claim 9, wherein said buffer arrangement is reconfigurable by at least one of switches and programmable registers.

15. A data-handling device as claimed in claim 9, wherein said data-handling device is embodied in at least one of a multi-port switch and repeater.

16. A data-handling device as claimed in claim 15, wherein said at least one of a multi-port switch and repeater is arranged to comply with at least one of Next Generation Input/Output (NGIO), Future Input/Output (FIO) and InfiniBand standards.

17. A system comprising:  
a data-handling device comprising:  
a buffer arrangement comprising:

4 a predetermined plurality of ports; and  
5 buffer resources of a predetermined size;  
6 wherein any number of said plurality of ports may be arranged for use for  
7 data-handling, and wherein said buffer resources are configurable to have a sub-size of said  
8 buffer resources assigned to each port of said plurality of ports in a first configuration  
9 where all of said plurality of ports are arranged for use for data handling, and wherein said  
10 buffer resources are reconfigurable to have a differing sub-size of said buffer resources  
11 assigned to at least one used port of said plurality of ports in a second configuration when a  
12 lesser number than said plurality of ports are arranged for use for data handling.

006290" 52090960  
1 18. A system as claimed in claim 17, wherein a concatenation arrangement is  
2 used to make said buffer resources reconfigurable to have said differing sub-size of said  
3 buffer resources assigned to at least one used port of said plurality of ports in said second  
4 configuration.

1 19. A system as claimed in claim 17, wherein at least a portion of a buffer  
2 resource of an unused port is reassignable to said at least one used port in reconfiguration  
3 of said buffer resources to said differing sub-size assigned to at least one used port in said  
4 second configuration.

1 20. A system as claimed in claim 17, wherein said buffer resources are  
2 configurable to have a substantially equal sub-size of said buffer resources assigned to each

port of said plurality of ports in said first configuration where all of said plurality of ports are arranged for use for data handling.

21. A system as claimed in claim 17, wherein said buffer resources are reconfigurable to have a second substantially equal sub-size of said buffer resources assigned to each used port of said plurality of ports in said second configuration when said lesser number than said plurality of ports are arranged for use for data handling, said second substantially equal sub-size being different in size from said substantially equal sub-size where all of said plurality of ports are arranged for use for data handling.

22. A system as claimed in claim 17, wherein said buffer arrangement is reconfigurable by at least one of switches and programmable registers.

23. A system as claimed in claim 17, wherein said data-handling device is embodied in at least one of a multi-port switch and repeater.

24. A system as claimed in claim 23, wherein said at least one of a multi-port switch and repeater is arranged to comply with at least one of Next Generation Input/Output (NGIO), Future Input/Output (FIO) and InfiniBand standards.

25. A method of providing a buffer arrangement comprising:  
providing a predetermined plurality of ports;  
providing buffer resources of a predetermined size;

4 wherein any number of said plurality of ports may be arranged for use for  
5 data-handling; and

6 when in a first configuration where all of said plurality of ports are arranged  
7 for use for data handling, configuring said buffer resources to have a sub-size of said buffer  
8 resources assigned to each port of said plurality of ports; and

9 when in a second configuration when a lesser number than said plurality of  
10 ports are arranged for use for data handling, re-configuring said buffer resources to have a  
11 differing sub-size of said buffer resources assigned to at least one used port of said plurality  
12 of ports.

1 26. A method as claimed in claim 25, wherein a concatenation arrangement is  
2 used to make said buffer resources reconfigurable to have said differing sub-size of said  
3 buffer resources assigned to at least one used port of said plurality of ports in said second  
4 configuration.

Add A2